

REMARKS

Claims 1-26 and 28-34 are pending in the above-identified application. Based on the latest Office Action, claims 2-19, 22 and 30-32 have been withdrawn from consideration. Support for the change to claim 1 is found, for example, at page 11, lines 21-23 of the specification. Support for new claims 32 and 34 is found at the bottom of page 8 of the specification.

Request for Interview

Applicants' representative respectfully requests a personal Interview with the Patent Examiner **before the issuance of any Office Action** in order to discuss the status of all of the presently pending claims and in order to clarify the patentability issues which are discussed below. Applicants' representative will contact the Patent Examiner in about one month in order to request scheduling of the Interview.

Absence of Double Patenting Issue

The Final Office Action dated September 21, 2004 indicates that claims 1, 23-25, 28 and 29 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over various claims of co-pending Application No. 09/529,052.

In response to the above-noted double patenting rejection, it is noted that the present application is not assigned to the same assignee as the '052 Application cited as the basis for the double patenting rejection. The present application is assigned to K.I.S.T., while the '052 Application is assigned to both K.I.S.T. and L.G. Electronics. It is further noted that the '052 Application does not constitute "prior art" under 35 U.S.C. 102 or 103 against the present application. Therefore, it is requested that the double patenting rejection be withdrawn.

Issues Under 35 U.S.C. 103(a)

Claims 1, 20, 21 and 23-28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Haque '022 (USP 4,598,022) in view of "Applicant's admission" (page 3, second paragraph of specification).

Claim 24 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Haque '022 in view of "Applicant's admission", and further in view of Haque '641 (USP 4,588,641).

Claim 29 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Haque '022 in view of "Applicant's admission", and further in view of Kleeberg '290 (USP 5,089,290).

The Patent Examiner points out in the Final Office Action that Haque '022 suggests at column 5, lines 61-64 that "acetyl acetone" may be used in the described plasma treatment process, and that

this example corresponds to the "unsaturated aliphatic hydrocarbon monomer gas" recited in the claims of the present application. Otherwise, the Final Office Action refers to the previous reasons stated in the previous Office Action as support for the outstanding rejections.

It is submitted that acetyl acetone is not a "hydrocarbon" because of the presence in this compound of oxygen in the molecular structure. Note that all "hydrocarbons" do not contain any oxygen atoms. Consequently, the significant distinctions between the present invention and Haque '022 still remain.

Repeated significant Distinctions between Present Invention and Haque '022

Haque '022 discloses a one-step plasma treatment process in which a substrate material is coated with a plasma of a mixture of a polar containing organic species and at least one of nitrogen and hydrogen as noted at column 2, lines 41-44. Haque '022 discloses that an apparatus **10** used for this treatment includes a vacuum chamber **12** having two electrodes **16** and **18** together with a substrate material **14**, wherein the electrodes are connected to an external power source **20**. It is clear that the substrate material **14** is described as an element separate from either of the two electrodes **16** and **18**. Haque '022 further discloses at column 4, lines 29-39 that the electrodes may be both connected to an

external power source 20 which, "... may be either any suitable conventional DC source or any suitable conventional AC source known in the art. An AC source is preferred because films deposited from DC glow discharge systems are generally poor and difficult to reproduce." Haque '022 further discloses at column 2, lines 54-57 that, "A source of a polar containing organic species that forms a stable compound with the substrate material may be placed in close proximity to or in contact with one of the electrodes." Haque '022 further discloses at column 3, lines 16-28 that the polar containing organic species is preferably formed from azole compounds, such as benzotriazole, toluenetriazole, N-vinyl carbazole and acetyl carbazole.

Haque '022 fails to disclose or suggest using an unsaturated aliphatic hydrocarbon monomer gas or a fluorine-containing monomer gas as a polymerizable gas in the described treatment method. Thus, Haque '022 fails to provide any basis for asserting *prima facie* obviousness against any of the claims of the present application. Therefore, patentable distinctions exist between the present invention and Haque '022. In this regard, it is noted that the Office Action asserts that "Applicant's admission" at page 3 of the specification supports a conclusion that it would have been obvious to use any type of monomer to form the plasma employed in the present invention, regardless of whether the monomer was an unsaturated aliphatic hydrocarbon or fluorine-containing monomer

gas used in the present invention, or a "source of a polar containing organic species" described in Haque '022. This conclusion in the Office Action is completely incorrect. There is no objective evidence anywhere supporting a conclusion that the polymeric gases used in the method of the present invention are equivalent to the polar containing organic species disclosed in Haque '022. There is no evidence that the plasmas formed from each of these two different monomeric sources are equivalent. In fact, it does not make any sense that Haque '022 would specifically prefer polar containing organic species, such as azole compounds, other than to form a plasma having different properties than a plasma formed from a non-polar source, such as an unsaturated aliphatic hydrocarbon monomer as used in the method of the present invention. Haque '022 fails to provide any basis whatsoever for alleging prima facie obviousness against any of the claims of the present application such that the above-noted rejections should all be withdrawn.

Additional reasons in support of withdrawal of the above-noted rejections are pointed out at pages 5-7 of the Reply filed May 25, 2004, and are deemed repeated herein.

#### Distinctions between the Present Invention and Haque '641

Haque '641 discloses a three-step plasma treatment method in which a substrate material is sequentially exposed to a plasma of

oxygen, a plasma of hydrocarbon monomer, and a second plasma of oxygen as noted at column 2, lines 38-47. The apparatus employed includes a vacuum chamber **12** having two electrodes **16** and **18** together with a substrate material **14** therein.

Haque '641 fails to disclose or suggest providing the combination of both a polymerizable gas and a non-polymerizable gas into a chamber for forming a plasma to coat a substrate as in the method of the present invention. A review of the disclosure and examples in Haque '641 indicates that the plasma gases are essentially homogenous and do not include mixtures with significant portions of both polymerizable and non-polymerizable gases as in the method of the present invention. Haque '641 also fails to disclose or suggest using a substrate material in place of one of the described two electrodes. Thus, Haque '641, like Haque '022, fails to recognize the advantages of the present invention associated with employing the substrate material in place of one of the electrodes. Therefore, patentable distinctions exist between the present invention and Haque '641.

#### Distinctions between Present Invention and Kleeberg '290

Kleeberg '290 discloses a method for generating glow polymerisate layers from hydrocarbons and/or fluorocarbons. The method employs a device which includes a discharge tube **1** of glass having a discharge chamber **2**, with two electrodes **3** and **4** arranged

outside of the tube 1. A substrate 5 is disposed in the chamber 2 for being coated.

Kleeberg '290 fails to disclose or suggest employing electrodes within a polymerization chamber as in the method of the present invention. Kleeberg '290 also fails to disclose or suggest employing a substrate to be coated in place of one of the electrodes as in the method of the present invention. Kleeberg '290 is farther removed from the present invention than either of the Haque '022 or Haque '641 documents discussed above. Consequently, significant patentable distinctions exist between the present invention and Kleeberg '290.

#### Conclusion

It is submitted for the reasons stated above that the present claims define patentable subject matter such that this application should now be placed condition for allowance.

If any questions arise regarding the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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